



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/706,713

11/12/2003

William E. Slack

PO7976/MD-03-30

7245

157 7590 07/21/2008
BAYER MATERIAL SCIENCE LLC
100 BAYER ROAD
PITTSBURGH, PA 15205

EXAMINER

SERGEANT, RABON A

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

07/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/706,713
Filing Date: November 12, 2003
Appellant(s): SLACK, WILLIAM E.

N. Denise Brown
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 15, 2008 appealing from the Office action mailed July 16, 2007.

Art Unit: 1700

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct; however, it is noted that only a single rejection of claims 1-18 under 35 USC 103 as being unpatentable over Slack et al. ('609 or '308) in view of Scholl et al. ('370) and further in view of Slack et al. ('272 or '399 or '746) or Rosthauser et al. ('652) or Markusch et al. ('913) was made. Appellant's Grounds of Rejection to be Reviewed on Appeal incorrectly indicates that two separate rejections were made.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

U.S. 5,955,609	Slack et al.	9-1999
U.S. 6,127,308	Slack et al.	10-2000
U.S. 5,124,370	Scholl et al.	6-1992
U.S. 5,663,272	Slack et al.	9-1997
U.S. 6,887,399 B2	Slack et al.	5-2005
U.S. 6,991,746 B2	Slack et al.	1-2006
U.S. 5,783,652	Rosthauser et al.	7-1998
U.S. 6,482,913 B1	Markusch et al.	11-2002

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Issue I: Rejection of Claims 1-18 under 35 USC 103

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slack et al. ('609 or '308) in view of Scholl et al. ('370) and further in view of Slack et al. ('272 or '399 or '746) or Rosthauser et al. ('652) or Markusch et al. ('913).

The primary references disclose the production of allophanate-modified, trimerized MDI having NCO contents that meet those claimed, wherein the MDI, including isomer mixtures of 4,4'-MDI and 2,4'-MDI, is reacted in the presence of a trimerization catalyst, an allophanate

Art Unit: 1700

catalyst, and an organic compound containing at least one hydroxyl group, such as isomeric butanols or propanols. See abstracts, column 3, lines 48+; column 6, lines 29-36; column 7, lines 50-59; and examples 10, 14, and 15 within the '609 or '308 references. Furthermore, the primary references disclose quantities of the hydroxyl compound utilized and conversions of urethane groups to allophanate groups that meet those claimed and the use of catalyst poisons to end the reaction at the desired point. See column 3, lines 1-37.

As aforementioned, the primary references disclose the use of MDI, including isomeric mixtures; however, the primary references fail to disclose appellant's specifically claimed MDI isomer mixture. Still, the use of MDI isomer mixtures corresponding to those claimed to produce liquid, stable polyisocyanates having the claimed NCO content range was known at the time of invention. Scholl et al. disclose the use of such mixtures to produce isocyanurate containing liquid, stable polyisocyanates. It is noted that Scholl et al. generally disclose the use of a diphenylmethane diisocyanate isomer mixture consisting of 40-80% by weight of 4,4'-MDI, 20-60% by weight 2,4'-MDI and 0-8% by weight 2,2'-MDI, based on the weight of total diphenylmethane diisocyanate isomers, that overlaps the MDI isomer composition of all instant claims, and Scholl et al. specifically disclose two isocyanate mixtures that meet the MDI isomer composition of all instant claims except for claims 3 and 12, wherein the first specific mixture (identified as Isocyanate mixture 1) contains 62% by weight of 4,4'-MDI, 32% by weight of 2,4'-MDI, and 6% by weight of 2,2'MDI (identified as Isocyanate mixture 1) and the second specific mixture (identified as Isocyanate mixture 3) contains 69% by weight of 4,4'-MDI, 27% by weight of 2,4'-MDI, and 4% by weight of 2,2'-MDI, based on the weight of the diphenylmethane diisocyanate isomers. See abstract; columns 1 and 2; and column 4, line 65

Art Unit: 1700

through column 5, line 11 within Scholl et al. Furthermore, Slack et al. ('272, '399, and '746), Rosthauser et al., and Markusch et al. disclose the use of such mixtures to produce allophanate containing liquid, stable polyisocyanates. See abstract and column 5, lines 55+ within Slack et al. ('272). See abstracts and columns 2 and 3 within Slack et al. ('399 and '746). See column 2, lines 32+ within Rosthauser et al. See abstract and column 4, lines 49+ within Markusch et al. Therefore, since these MDI isomer mixtures were known to be useful for producing stable isocyanurate containing polyisocyanates and stable allophanate containing polyisocyanates, and since these resulting compositions and the methods by which they were produced are similar to the MDI-based polyisocyanates and method of the primary references, the position is taken that it would have been *prima facie* obvious to react these MDI isomer mixtures according to the teachings of the primary references, so as to obtain the claimed stable, liquid allophanate-modified, trimerized polyisocyanates.

(10) Response to Argument

Response to Arguments With Respect to Issue I

Appellant's arguments have been fully considered; however, the arguments are insufficient to overcome the prior art rejection for the following reasons. Appellant has essentially argued that incorporating the isomeric mixture of Scholl et al. that lacks the p-MDI (polymeric MDI) component into the primary references will not yield the instant invention. Appellant arrives at this conclusion by basing his response on one exemplified isomeric mixture that lacks p-MDI and further lacks diphenylmethane diisocyanate isomer contents that meet those instantly claimed. Appellant argues that one would look only to this single exemplified composition, because the remaining exemplified compositions contain the p-MDI component,

Art Unit: 1700

and it is appellant's position that the instant invention excludes or does not allow for the presence of the argued p-MDI component. In other words, appellant has essentially ignored the general teachings within Scholl et al. with respect to the ranges of MDI isomers that may be present and, because appellant believes that his claims exclude p-MDI, appellant has based his response almost exclusively on a single exemplified isomer composition that is not within the scope of the claims.

In response, appellant's interpretation of his claims is incorrect and appellant's response fails to appreciate the full teachings of Scholl et al. Contrary to appellant's arguments, the instant claims do not exclude, in any manner, the argued p-MDI component; therefore, the p-MDI containing compositions of Scholl et al are not outside the scope of the claims. Appellant's claims are governed by the transitional language, "comprising"; therefore, the claims are open to the inclusion of additional components, including the argued p-MDI component. Furthermore, the claimed percent values of the instantly claimed MDI isomers are clearly stated to be based upon component a)(1), a diphenylmethane diisocyanate; accordingly, the instantly claimed percent composition is based solely on the diisocyanate component and cannot be construed to either be based upon or exclude components that are not diphenylmethane diisocyanate, such as p-MDI. Based upon this analysis of the claim language, there is simply no justification for interpreting the claims as argued by appellant. Since appellant's arguments are heavily based upon an improper interpretation of the claims, no meaningful weight can be given to appellant's arguments that fail to address relevant teachings of Scholl et al. Furthermore, it is well established that a reference is good for all that it teaches; therefore, appellant's failure to consider or address additional exemplified embodiments and the disclosed general ranges of MDI isomer

Art Unit: 1700

contents disclosed by Scholl et al. that are within the instantly claimed ranges is improper and fails to provide a complete response to the rejections and issues at hand.

Within the last paragraph of page 7 of the Appeal Brief, appellant provides an in depth discussion of the ranges of isomers that are permitted by the Scholl et al. reference when p-MDI is present and when it is not. However, appellant's calculations and conclusions are incorrect in that they are based upon an incorrect interpretation of the reference. Appellant's argued isomer content when p-MDI is present is incorrect; appellant has based his calculations on p-MDI being present in an amount of 20% by weight; however, the contents set forth within the abstract and column 2 of Scholl et al. are based solely on the diphenylmethane diisocyanate isomers and not on the presence of any other component, such as p-MDI. A careful reading of Scholl et al. bares this out. Note especially the reference to diisocyanatodiphenyl methane isomers within the abstract and column 2, lines 22 and 23. Accordingly, the isomer contents specified within the abstract and column 2 can be directly compared to the instantly claimed isomer contents. In other words, the isomer contents within the abstract and column 2 do not allow for the p-MDI component; therefore, the isomer contents are the same as those which appellant argues are present when the content of p-MDI is zero; and it is noted that appellant admits for this situation that "the above isomeric distribution for monomeric MDI is possible". This is considered to constitute an admission or appreciation by appellant that the claimed MDI isomer contents are encompassed by the reference.

Within page 10 of the Appeal Brief, appellant has directed the Board's attention to Examples 18 and 19 of the specification. The examiner has considered these examples; however, their relevance to the issues at hand is unclear. The examples are argued to show that

Art Unit: 1700

non-allophanate containing trimerized compositions produced from only MDI monomer having a content of 2,4'-MDI of less than 38% are not stable liquids. These examples do not contain allophanate groups and are not representative of the instant invention; furthermore, given the difference in catalyst selection, presence of polyol, and presence of p-MDI between these examples and the examples of Scholl et al., it is not clear that these examples are representative of Scholl et al. or are fairly comparable to Scholl et al. Accordingly, it cannot be determined how these examples can be construed to support patentability of the instant invention or to justify removal of the Scholl et al. reference.

With respect to appellant's remarks concerning the reliance on Slack et al. ('272 or '399 or '746) or Rosthauser et al. ('652) or Markusch et al. ('913), as aforementioned, these references have been relied upon to demonstrate that it was known to produce allophanate containing compositions from MDI isomer compositions analogous to those of Scholl et al. at the time of invention.

Response to Arguments Concerning Claims 3 and 12

Appellant has argued that claims 3 and 12 are patentable over the prior art of record for essentially the same reasons as previously set forth and further in view of the fact that these claims set forth an isomer composition that is outside the exemplified compositions of Scholl et al. (referred to by Scholl et al. as Isocyanate mixture 1, Isocyanate mixture 2, and Isocyanate mixture 3). Firstly, the examiner takes the position that the responses to appellant's arguments with respect to the references as well as argued Examples 18 and 19, previously set forth, also apply to these claims. Secondly, the examiner agrees that the specifically exemplified isomer blends of Scholl et al. are outside the scope of these claims; however, the isomer blends of

Art Unit: 1700

claims 3 and 12 continue to fall squarely within the general diisocyanatodiphenyl methane isomer blends set forth within the abstract and column 2 of Scholl et al. Accordingly, the prior art is considered to render obvious the use of such MDI isomer mixtures. As aforementioned, a reference is good for all that it teaches; therefore, appellant's failure to address these teachings constitutes a failure to adequately respond to the rejection. The examiner finds no justification for ignoring these teachings and basing the response solely on the exemplified compositions.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Rabon Sergent/

Primary Examiner, Art Unit 1796

Conferees:

James Seidleck

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796

/Gregory L Mills/

Supervisory Patent Examiner, Art Unit 1700

Application/Control Number: 10/706,713
Art Unit: 1700

Page 10